

CALIFORNIA ENERGY COMMISSION

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STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

NOTICE OF CONCLUSIONS ON MAXIMUM SCOPE OF THE
2005 BUILDING ENERGY EFFICIENCY STANDARDS

The Energy Efficiency Committee and staff would like to thank all of the people who have provided *Measure Information Templates* and other ideas for revisions for the *2005 Building Energy Efficiency Standards*. The Committee appreciates the effort put into these proposals and the cooperation with the process established for submitting and presenting proposals at the October 22, 2001 and November 14 and 15, 2001 workshops.

The Committee has reached conclusions on the scope of proposed revisions that the Commission will consider for the *2005 Building Energy Efficiency Standards*. All of the 271 templates and ideas that were proposed by the Commission and other persons were assessed. The most important considerations were the following:

1. Whether or not the Commission made a commitment during the AB 970 Standards proceeding to address the proposed revision in the next round of Standards changes;
2. The extent public funds have been invested to date in developing the proposed revision for inclusion in the 2005 Standards through Public Interest Energy Research or other California Energy Commission (CEC) funding or public goods funding;
3. The extent of energy savings and peak demand reduction expected to be achieved by the proposed revision in the 2005 Standards.

The next phase of Standards development is a thorough investigation, including: development of cost information, energy modeling and analysis techniques, and evaluation of the cost effectiveness of measures proposed as new mandatory, prescriptive and standard design requirements. The Commission has limited contract and staff resources to carry out the work for this phase of the project and must therefore focus its efforts on a limited number of measures.

If for any reason it appears that the Commission lacks the resources to complete the investigation of any of these Committee selected measures, the Commission will discontinue the measure or reduce the scope of the measure so that it can be completed within Commission resources.

Committee Selected Measures

The following measures have been chosen for the next phase of development. In addition to the title of the measure, the name of the proponent of the measure is provided. Templates for the Commission measures can be found in the *Measure Identification and Analysis Plan* on the Commission's website at [http://www.energy.ca.gov/2005_standards/documents/2001-11-08 MEASURES.PDF]. Templates for top priority measures proposed by others can be found in the *Measure Information Templates Proposed by Others* file at [http://www.energy.ca.gov/2005_standards/documents/public_comments/measure_information/]. For the templates proposed by others, the author's name and number that is listed in the *Measure Information Templates Proposed by Others* file is also provided. The Commission may revise the scope of top priority measures to focus on the most significant aspects.

1. Time Dependent Valuation (CEC, PG&E - Heschong-1, Heschong-2, Heschong-3)
2. Residential Air Conditioner Sizing (CEC)
3. Residential Construction Quality (CEC)
4. Residential Duct Systems (CEC)
5. Improvements for Existing Homes (PG&E - Mahone10)
6. Performance Verification of Nonresidential Systems and Equipment (CEC)
7. Residential Fenestration (CEC)
8. Water Heating in Multi-Family (PG&E - Mahone14)
9. Water Heating Distribution Loss Performance Improvement Options (CEC)
10. Revise Mandatory Minimum Duct Insulation to R-8 for Nonresidential Occupancies (NAIMA - Ware-4)
11. Improvements for Existing Light Commercial Buildings (PG&E - Mahone09)
12. Lighting Power Allowances - Complete Building Method (CEC)
13. Lighting Power Allowances - Area Category Method (CEC)
14. Demand Control Ventilation (PG&E - Mahone07)
15. Inclusion of Cool Roofs in Title 24 (PG&E - Mahone01)
16. Automatic Controls to Shed Load (Wattstopper - Jepsen-11)
17. Air Side Economizers (CEC)
18. Hydronic System Measures (CEC)
19. Electrically Commutated Motors for HVAC Terminal Unit Fans (Hogan - HoganSeattle)
20. Cooling Towers (PG&E - Mahone06)
21. Lighting Controls Under Skylights (PG&E - Mahone18)
22. Simplification of Tailored Method (CEC)
23. Size Threshold for VAV Fan Controls (CEC)
24. Staged Volume Fan Control (Edison - Ander-2)
25. Hardwired Lighting (PG&E - Mahone12)
26. Modular Classrooms (PG&E - Mahone15)
27. Revise Prescriptive Envelope Requirements for Nonresidential Occupancies (NAIMA - Ware-1)
28. T-Bar Ceilings (CEC)

Other Linked Measures

A substantial degree of overlap among the templates and revision proposals existed. Proposals often were either substantially the same or were variants of the same idea. Many of the proposals were in some way overlapping with the Commission's top priority measures. The Commission views the Committee selected measures as being the most compelling description of the measure or the most appropriate scope for the measure. The Commission has separately posted on the project website [www.energy.ca.gov/2005_standards] a listing of measures that are linked to the Committee selected measures. The Commission intends that consideration be given to the related ideas that are linked to the Committee selected measures.

Non-Energy Commission Funding for Top Priority Measures

The utilities are responsible for administering public goods charge funding related to the statewide Codes and Standards program. The primary investigatory work for several top priority measures is funded through these public goods charge resources, including several from Pacific Gas and Electric (PG&E) and one from Southern California Edison. For these measures the Commission's project resources will be limited to the review and coordination of this investigation with the other Committee selected measures.

The North America Insulation Manufacturers Association (NAIMA) has asked to be allowed to provide funding for investigation of insulation related aspects of the Commission's Committee selected measures. NAIMA intends to provide that funding in the form of a grant to the New Buildings Institute, a not-for-profit public benefits corporation focused on increasing the energy efficiency of new buildings through codes and standards improvements and buildings research. The New Buildings Institute will contract with the Commission's contractor to co-fund the investigation of several of the Commission's Committee selected insulation related measures.

Two Committee selected measures were proposed by other persons. One is proposed by John Hogan of the City of Seattle (Electrically Commutated Motors for HVAC Terminal Unit Fans). The Commission will use its resources to conduct the primary investigation of this measure, but expects that Mr. Hogan will provide direct support to this investigation. The other Committee selected measure was proposed by Wattstopper, a private lighting controls company (Automatic Controls to Shed Load). The Commission expects that Wattstopper will provide the resources for the primary investigation of this proposal. The Commission will limit its resources to review and coordination of this investigation with the other Committee selected measures.

Other Proposed Measures Funded by the Utilities

PG&E and Southern California Edison are investigating through their Codes and Standards programs other measures, which are not among the Commission's Committee selected measures, but which would require cost effectiveness analysis to revise the mandatory, prescriptive, or standard design requirements of the Standards. These measures include the following:

- Duct Tightening (PG&E - Mahone08)
- HVAC Equipment Efficiencies (PG&E - Mahone11)
- Automatic Bi-level Lighting Controls (PG&E - Mahone-02)
- Commercial and Industrial Refrigeration (Edison - Haiad)

Even though these measures were not among the Commission's top priority measures, the utilities intend to continue to do the primary investigation necessary for these measures. When the utilities complete this investigation, the Commission will allow the utilities to present the work in a public workshop as part of this proceeding. If the work is completed in a fully satisfactory manner from a technical and timing vantage point, the Commission will decide at that point whether it has sufficient resources to include the measures in the draft 2005 Standards.

Other Measures Which Do Not Require Cost Effectiveness Analysis

Some of the proposed measures are not new mandatory, prescriptive or standard design requirements, and therefore do not require extensive investigation, (such as development of cost information, energy modeling and analysis techniques, and evaluation of cost effectiveness). These measures were instead proposals to revise current requirements to make them more effective. Since these measures do not require extensive Commission resources during the next phase of the project, the Commission will consider them once the analytical work on the Commission's top priority measures is complete and to the extent that resources are available to address them at that time.

Compliance Options

Several of the proposed measures were compliance options intended to substantially improve the existing analysis for credit in the performance Standards approach or establish new compliance credit for specialized, emergent building features or equipment. Since these measures are not requirements but merely alternatives for compliance purposes, they do not result in energy savings in the context of the Standards. And since they are specialized, emergent features or equipment, they currently have limited use in new buildings, and would not be expected for the significant near future to be mainstream features of most buildings.

Even though the Commission attempts to provide reasonable compliance credit for such features or equipment in the performance Standards, and is open to proposals to legitimately improve calculation methods for them, the Commission must at this time place a lower priority on them than on top priority measures which would result in new Standards requirements or are expected to be mainstream features of most buildings in the near future. Therefore, the Commission will delay consideration of such compliance options until after the Commission adopts the 2005 Standards.

After adopting the Standards, the Commission will consider such compliance options to the extent that Commission resources allow. In the meantime, proposers of such compliance options are encouraged to sponsor

whatever technical work may be necessary to develop analysis methods comparable to the Commission's current Alternative Calculation Methods Approval Manual for Commission consideration after it adopts the 2005 Standards.

Project Website

The following information can be found on the Commission's 2005 Update Residential and Nonresidential Energy Efficiency Building Standards Web page at www.energy.ca.gov/2005_standards

- Background information about the 2005 Standards Update
- Notices, Announcements, Hearings and Workshops
- Documents, Reports, Public Comments and Transcripts

Assistance

For information on participating in Commission proceedings, please contact Roberta Mendonca, the Public Adviser, (916) 654-4489, toll free (800) 822-6228, or by e-mail at [pao@energy.state.ca.us].

If you have a disability and require special accommodations, please contact Priscilla Ross at (916) 653-6631. Technical questions should be directed to Bryan Alcorn, 2005 Standards Contract Manager, (916) 654-4222 or by e-mail at [balcorn@energy.state.ca.us]. News media inquiries should be directed to Assistant Director Claudia Chandler, (916) 654-4989.

Dated: January 18, 2001

(Original signed by Robert Pernell)

ROBERT PERNELL
Commissioner and Presiding Member
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(Original signed by Arthur Rosenfeld)

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